Michael Saxon

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Summary

My interests lie at the intersection of signal theory and deep learning, specifically on furthering machine audio, visual, and linguistic understanding for improved HCI. Seeking a summer 2018 internship.

Skills

Conceptual – Computational linguistics, DSP, embedded programming, sensor fusion, FPGA development, deep learning, multimedia processing

Languages/Environments – Python, C/C++, Verilog, MATLAB, Linux, BASH Shell, LabVIEW, Java

Libraries – OpenCV, Numpy, SciPy, PyTorch, some ROS, learning TensorFlow

Natural Languages – English *(native)*, Spanish *(limited working)*, Japanese *(elementary)*

Selected Coursework (300 level +)

Computer Engineering–Digital Image/Video Processing, Random Signal Theory, Deep Learning for Media Processing

Electrical Engineering – Real Time DSP, Signals I & II, Engineering Electromagnetics, Analog and Digital Circuits, HDL/FPGA Design, Computer Org/Assembly Language

Comp Math – Cryptography, Probability, Algorithms & Data Structures, Applied Computational Methods, Advanced Lin Alg, Numerical Computing

Education

Arizona State University — Tempe, AZ

MS Computer Engineering — *Aug 2017 – **May 2019***

4+1 Program, Concentration in Multimedia Signal Processing and Deep Learning

BSE Electrical Engineering, BS Computational Mathematical Sciences — *Aug 2014 – **Aug 2018***

Cumulative GPA: **3.57**, Major GPAs **3.61**, **3.39**. **Student Orgs:** *Sun Devil Robotics Club* {President 2016 – 2017, Treasurer 2015–2016}, *Data Analytics Club*, **Honor Societies:** *IEEE-Eta Kappa Nu*, *Phi Kappa Phi* ***Barrett, the Honors College*** – Thesis: **Statistical Speech Nasality Measures for Neuromuscular Disorder Diagnosis** (Tentative)

Experience

Center for Cognitive Ubiquitous Computing — Tempe, AZ

Student Researcher — *August 2017 – present*

Creating speech nasality measurement software using TensorFlow for use in neurological disorder diagnosis (includes work for my honors thesis). Designing deep neural networks for multimodal emotion recognition (emphasis on speech).

The Luminosity Lab, an ASU Strategic Initiative — Tempe, AZ

AI/ML Working Group Member — *August 2016 – present*

Creating engaging conversation modelling software for chatbots in a lifelong learning environment. Designed geofencing and mesh networking algorithms for a squadron of autonomous quadrotor vehicles. Operated under direct supervision of the University President's Office.

General Dynamics Mission Systems — Scottsdale, AZ

Embedded Software Engineering Intern — *May 2017 – August 2017*

Performed software-level regression testing for the HOOK 3 Combat Survival Radio system. Wrote test scripts and technical reports. Identified software defects tied to issues found and verified correct solutions within a fast-paced Agile dev cycle.

National University of Singapore – Social Robotics Lab — Singapore

Exchange Undergraduate Researcher — *May 2016 – July 2016*

Developed a "dialogue management system" - a natural language processing algorithm based on AIML with self-modification capabilities for use in robotics applications.

Arizona State University — Tempe, AZ

Tutor, Engineering Tutoring Center — *October 2015 – September 2016*

Explaining concepts from math, physics, and engineering classes to facilitate better student performance. Answering questions, giving homework and project help, and hosting review sessions.

Undergraduate Researcher, Nanoelectronics and Integration Lab — *June 2014 – December 2016*

Developed software for a fully automated method of rapidly measuring nano-scale deformations in heated computer chip samples based on diffraction patterns created by an incident laser. Created an integrated hardware system for fully automated data collection. Second author in a journal publication.